

GLINKOV, M.A., professor, doktor tekhnicheskikh nauk; VAVILOV, N.S., kandidat tekhnicheskikh nauk.

Heat exchange in metallurgical furnace combustion chambers. Sbor.
Inst. stali no.35:166-185 '56. (MLBA 10:8)

1. Kafedra metallurgicheskikh pechey.
(Metallurgical furnaces) (Heat--Transmission)

137-58-6-11676

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 65 (USSR)

AUTHORS Glinkov, M.A., Vavilov, N.S.

TITLE Heat Exchange in the Space Above the Bath of a Recirculation-type Steel-foundry Furnace (Teploobmen v postranstve nad vannoy retsirkulyatsionnoy staleplavil'noy pechyu)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 37, pp 305-329

ABSTRACT: A presentation of the results of an investigation of heat exchange in a 10-ton steel-foundry recirculation-type furnace (RF) having 9.6 m² hearth area and simultaneous two-sided heavy-oil feed at 2-3 atm excess pressure, sprayed by compressed air at 4-5 atm excess pressure. The heat flux, measured by a heat gage of special design rises gradually during the heat and then drops at the end of the working period. The heat flow over the bath, Q_B , varies across the width of the furnace from one melt to the next, from between 800-1,100 thousand kcal/m²hr at the front wall to 1200-1450 rearwards of the middle of the furnace, and drops to 1050-1150 thousand kcal/m²hr at the rear wall. The take-up of heat by the bath, ΔQ , varies in similar fashion, attaining levels of 350-400 thousand kcal/m² hr. Q_B varies insignificantly along the length of the

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Kafedra metallurgicheskikh pechey, Moscow in-ta stali

137-58-6-11676

Heat Exchange in the Space (cont.)

furnace, and ΔQ attains a maximum in the center of the furnace. The heat flux is distributed across the area of the furnace considerably more uniformly than in an open hearth, since the two-sided fuel feed makes it possible to maintain identical thermal conditions in either half of the working space. Q_B varies during a melt as follows through the height of the working space from 1100-1250 thousand kcal/m²hr at a point 300 mm from the surface of the bath to 850-900 at a height of 1200-1300 mm. Curves are presented for the variation in calculated temperature and in black-body radiation of the gas at different levels. The heat emissivity by radiation is 1500-2360 kcal/m²°C·hr, while for an open hearth furnace it does not exceed 1600. The bath surface is 70-80% black and the temperature of the RF bath surface is 1700-1800°C. The temperature of the metal is the same as in an open-hearth furnace. In the RF the slag undergoes considerably greater overheating. In the RF there is virtually no time during the heat when the bath is not undergoing vigorous agitation. The directed heat exchange plays a significant role.

G.G.

1. Metallurgy--RF
2. Furnaces--Performance
3. Temperature--Measurement
4. Heat--Absorption

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VAVILOV, N.S.

Conference on the direct process of iron production. Izv. AN
SSSR. Met. i gor. delo no.1:189 Ja-P '64. (MIRA 17:4)

VAVILOV, N.S.

Investigating heat flow in a recirculation-type steel smelting furnace.
Trudy Inst.met. no.3:98-107 '58. (MIRA 12:3)
(Smelting furnaces)
(Heat--Transmission)

15(5)

AUTHOR: Vavilov, N. S.

SOV/20-121-5-21/50

TITLE: Problems of the Heating of Material in Shaft Arrangements
at Layer Operation (Problemy nagreva materiala v shakhtnykh
ustroystvakh pri sloyevom rezhime)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 5,
pp 845 - 847 (USSR)

ABSTRACT: This paper suggests a new method of heat treatment
of ground or granulated materials with a relatively
short interval of the particle dimensions of the
investigated material. This method consists of the
following operations: The material (which is placed
in a column-shaped receptacle) is displaced above
a diaphragm in a gas flow. In this way, a chaotic
cyclic retrogressive oscillating motion of the single
particles or grains of the material is excited. Under
certain conditions the material passes as a continuous
flow through the hole in the diaphragm. According to
experiments carried out on a cold model, the heat

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Problems of the Heating of Material in Shaft
Arrangements at Layer Operation

SOV/20-121-5-21/50

treatment in the suspended "spouting" layer may easily be regulated. The corresponding values of all the parameters (input of gas and material, height of the suspended layer etc.) may be kept constant. An advantage of this method, moreover, is the smaller loss of pressure by the flow through the diaphragm. A cascade apparatus having 4 diaphragms with holes of $\sim 18\%$ of the cross section was tested. The heat treatment of materials in a suspended "spouting" layer was tested with respect to pre-drying (podsushka), carbonization, and drying of coal granules of any dimension ($\sim 2-3$ mm and more) and also with respect to the direct production of iron from spherical briquets of iron ore. Moreover, this method may be applied to the annealing of ores in metallurgy, and also to the heating and drying of any granular materials. In the above discussed apparatus, the heat may be supplied by any elementary method (or by a combination of methods). There are 3 figures and 11 references, 8 of which are Soviet.

PRESENTED: April 11, 1958, by I. P. Bardin, Academician
SUBMITTED: April 11, 1958

Card 2/2

VAVILOV, N.S.

BARDIN, I.P.; GESS-DE-KALYVE, B.A.; KARAVETS, P.I.; KULENIEV, P.N.;
VAVILOV, N.S.

Vosstanovlenie rudno-toplivnykh granul vo
vzveshno-fontaniruyushchey stoe s tselyu
polucheniya gubchatogo shleka.

report submitted for the 5th Physical Chemical Conference on
Steel Production.

MOSCOW - 20 Nov 68

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THE ILLINOIS DEPARTMENT OF REVENUE

1047/2536

THESE ARE THE BEST. THE BEST ARE THESE.

[illegible]

Prof. M. I. L. Pavlov, Academiism; M. of Polluting Bureau; A. J. Chavany,
Tech. M. I. L. Pavlov.

REMARK: This book is of interest to researchers in sociology, as well as to the technical personnel of the intelligence industry.

invest. A.A. Boppana (Inventor), *Thermite as walling agent in walling, balling, metal and alloy, and pyrotechnical methods of metallurgy*. Same as the results pertains to the production of thermite, the viscosity and other characteristics of blast furnace slag, aluminum is added, resulting in metal due to reaction, elimination.

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stability of metals at various temperatures, equations for measuring electrical resistance and for determining the melting point of alloys and alloys, optical spectral analysis, quantitative determinations by the gravimetric method, and aging of alloys. Each study is accompanied by references.

REPLY TO COMMENTS

Metallurgy, Study of Metals (Cont.)

807/2596

SHAW, J. D., ROBERTS, and A. F. BARNARD. Estimates of Activation Energy of Viscous Flow Applicable to Studies of Physical Properties of Molten Alloys

Varley, E.B. Study of Thermal Stresses in a Metallization Process

1. The first part of the document is a list of names and addresses, which appears to be a directory or a list of contacts. The names are written in a cursive script, and the addresses are listed below them. The list includes names such as "Mr. J. H. Smith", "Mr. W. B. Jones", and "Mr. C. D. Brown".

See also 6001, 6002, 6003, 6004, 6005, 6006, 6007, 6008, 6009, 6010, 6011, 6012, 6013, 6014, 6015, 6016, 6017, 6018, 6019, 6020, 6021, 6022, 6023, 6024, 6025, 6026, 6027, 6028, 6029, 6030, 6031, 6032, 6033, 6034, 6035, 6036, 6037, 6038, 6039, 6040, 6041, 6042, 6043, 6044, 6045, 6046, 6047, 6048, 6049, 6050, 6051, 6052, 6053, 6054, 6055, 6056, 6057, 6058, 6059, 6060, 6061, 6062, 6063, 6064, 6065, 6066, 6067, 6068, 6069, 6070, 6071, 6072, 6073, 6074, 6075, 6076, 6077, 6078, 6079, 6080, 6081, 6082, 6083, 6084, 6085, 6086, 6087, 6088, 6089, 6090, 6091, 6092, 6093, 6094, 6095, 6096, 6097, 6098, 6099, 6100, 6101, 6102, 6103, 6104, 6105, 6106, 6107, 6108, 6109, 6110, 6111, 6112, 6113, 6114, 6115, 6116, 6117, 6118, 6119, 6120, 6121, 6122, 6123, 6124, 6125, 6126, 6127, 6128, 6129, 6130, 6131, 6132, 6133, 6134, 6135, 6136, 6137, 6138, 6139, 6140, 6141, 6142, 6143, 6144, 6145, 6146, 6147, 6148, 6149, 6150, 6151, 6152, 6153, 6154, 6155, 6156, 6157, 6158, 6159, 6160, 6161, 6162, 6163, 6164, 6165, 6166, 6167, 6168, 6169, 6170, 6171, 6172, 6173, 6174, 6175, 6176, 6177, 6178, 6179, 6180, 6181, 6182, 6183, 6184, 6185, 6186, 6187, 6188, 6189, 6190, 6191, 6192, 6193, 6194, 6195, 6196, 6197, 6198, 6199, 6200, 6201, 6202, 6203, 6204, 6205, 6206, 6207, 6208, 6209, 6210, 6211, 6212, 6213, 6214, 6215, 6216, 6217, 6218, 6219, 6220, 6221, 6222, 6223, 6224, 6225, 6226, 6227, 6228, 6229, 6230, 6231, 6232, 6233, 6234, 6235, 6236, 6237, 6238, 6239, 6240, 6241, 6242, 6243, 6244, 6245, 6246, 6247, 6248, 6249, 6250, 6251, 6252, 6253, 6254, 6255, 6256, 6257, 6258, 6259, 6260, 6261, 6262, 6263, 6264, 6265, 6266, 6267, 6268, 6269, 6270, 6271, 6272, 6273, 6274, 6275, 6276, 6277, 6278, 6279, 6280, 6281, 6282, 6283, 6284, 6285, 6286, 6287, 6288, 6289, 6290, 6291, 6292, 6293, 6294, 6295, 6296, 6297, 6298, 6299, 6300, 6301, 6302, 6303, 6304, 6305, 6306, 6307, 6308, 6309, 6310, 6311, 6312, 6313, 6314, 6315, 6316, 6317, 6318, 6319, 6320, 6321, 6322, 6323, 6324, 6325, 6326, 6327, 6328, 6329, 6330, 6331, 6332, 6333, 6334, 6335, 6336, 6337, 6338, 6339, 6340, 6341, 6342, 6343, 6344, 6345, 6346, 6347, 6348, 6349, 6350, 6351, 6352, 6353, 6354, 6355, 6356, 6357, 6358, 6359, 6360, 6361, 6362, 6363, 6364, 6365, 6366, 6367, 6368, 6369, 6370, 6371, 6372, 6373, 6374, 6375, 6376, 6377, 6378, 6379, 6380, 6381, 6382, 6383, 6384, 6385, 6386, 6387, 6388, 6389, 6390, 6391, 6392, 6393, 6394, 6395, 6396, 6397, 6398, 6399, 6400, 6401, 6402, 6403, 6404, 6405, 6406, 6407, 6408, 6409, 6410, 6411, 6412, 6413, 6414, 6415, 6416, 6417, 6418, 6419, 6420, 6421, 6422, 6423, 6424, 6425, 6426, 6427, 6428, 6429, 6430, 6431, 6432, 6433, 6434, 6435, 6436, 6437, 6438, 6439, 6440, 6441, 6442, 6443, 6444, 6445, 6446, 6447, 6448, 6449, 6450, 6451, 6452, 6453, 6454, 6455, 6456, 6457, 6458, 6459, 6460, 6461, 6462, 6463, 6464, 6465, 6466, 6467, 6468, 6469, 6470, 6471, 6472, 6473, 6474, 6475, 6476, 6477, 6478, 6479, 6480, 6481, 6482, 6483, 6484, 6485, 6486, 6487, 6488, 6489, 6490, 6491, 6492, 6493, 6494, 6495, 6496, 6497, 6498, 6499, 6500, 6501, 6502, 6503, 6504, 6505, 6506, 6507, 6508, 6509, 6510, 6511, 6512, 6513, 6514, 6515, 6516, 6517, 6518, 6519, 6520, 6521, 6522, 6523, 6524, 6525, 6526, 6527, 6528, 6529, 6530, 6531, 6532, 6533, 6534, 6535, 6536, 6537, 6538, 6539, 6540, 6541, 6542, 6543, 6544, 6545, 6546, 6547, 6548, 6549, 6550, 6551, 6552, 6553, 6554, 6555, 6556, 6557, 6558, 6559, 6560, 6561, 6562, 6563, 6564, 6565, 6566, 6567, 6568, 6569, 6570, 6571, 6572, 6573, 6574, 6575, 6576, 6577, 6578, 6579, 6580, 6581, 6582, 6583, 6584, 6585, 6586, 6587, 6588, 6589, 6590, 6591, 6592, 6593, 6594, 6595, 6596, 6597, 6598, 6599, 6600, 6601, 6602, 6603, 6604, 6605, 6606, 6607, 6608, 6609, 6610, 6611, 6612, 6613, 6614, 6615, 6616, 6617, 6618, 6619, 6620, 6621, 6622, 6623, 6624, 6625, 6626, 6627, 6628, 6629, 6630, 6631, 6632, 6633, 6634, 6635, 6636, 6637, 6638, 6639, 6640, 6641, 6642, 6643, 6644, 6645, 6646, 6647, 6648, 6649, 6650, 6651, 6652, 6653, 6654, 6655, 6656, 6657, 6658, 6659, 6660, 6661, 6662, 6663, 6664, 6665, 6666, 6667, 6668, 6669, 6670, 6671, 6672, 6673, 6674, 6675, 6676, 6677, 6678, 6679, 6680, 6681, 6682,

Novov, E.J. On the Equilibrium Number of Vacancies (Holes) in Metals

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Summary, E.I. On the Theory of Allergic Intepoof Allergy

Salinger, K.A., To.H. Kuroshima, and A.H. Portchinsky. On the Test Instances of Allergy of the H₂ - O₂ System

Card 3/6

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N.S. 107114A

VAVILOV, N.S.

Connection between the coefficients of radiating heat loss and
radiating heat exchange and nomograms for their determination.
Trudy Inst.met. no.5:50-69 '60.

(MIRA 13:6)

(Metallurgical furnaces)

(Heat--Transmission)

VAVILOV, N.S.

Heating equipment for the treatment of materials in suspension
with fountain effect. Trudy Inst. met. no.8:30-39 '61.

(MIRA 14:10)

(Ore dressing)

(Furnaces, Heat-treating)

S/137/62/000/004/013/201
A006/A101

AUTHORS: Bardin, I. P., Gess-de-Kal've, B. A., Kanavtsev, P. I., Vavilov, N. S., Melenzh'ev, P. N., Diyeu, V. Ye.

TITLE: Reduction of ore-fuel granules in a suspended gushing layer for the purpose of obtaining sponge iron

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 17, abstract 4V121 (V sb. "Fiz. khim osnovy proiz-va stali", Moscow, AN SSSR, 1961, 168-176)

TEXT: The authors describe a process of reducing ore-fuel granules (of 2 - 3 mm size) obtained by the chemical catalytical method developed by the Institute of Fuel Minerals and the Institute of Metallurgy imeni A. A. Baykov. The granules were prepared from KMA ore concentrates with coal coke and peaty semicoke. Reduction was performed in a suspended gushing layer in a laboratory metallic single-stage reactor with the aid of preheating reducing gas, which was then burnt for the external heating of the reactor. Reduction proceeded particularly intensively at $> 900^{\circ}\text{C}$; within 5 minutes a reduction degree of 90% was attained. The granules did not stick together or onto the reactor walls. Data

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Reduction of ore-fuel granules ...

S/137/62/000/004/013/201
A006/A101

are obtained for the design of a semi-industrial unit. For the industrial assimilation of the method the granules should be manufactured from very rich concentrates, containing 65 - 70% Fe. Laboratory melting of the sponge-Fe obtained shows that it may be used as a scrap substitute in steel production. There are 7 references.

A. Pokhvisnev

[Abstracter's note: Complete translation]

Card 2/2

18.3.100
AUTHORS:

S/180/62/000/001/002/014
E111/E135
Vavilov, N.S., Tsylev, L.M., and Chao Ch'ung-Chu
(Moscow)

TITLE:

Reduction of iron from ores in a fountaining
fluidized bed

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Otdeleniye
tekhnicheskikh nauk. Metallurgiya i toplivo,
no.1, 1962, 46-53

TEXT:

The authors have previously described the results
of a limited investigation of the reduction of ore-fuel
granules with water gas in a fountaining-type fluidized bed.
They later showed that in this case reduction proceeds
especially rapidly at temperatures above 900 °C, whereas under
stationary conditions this occurs only above 1000 °C.
Laboratory melting of the iron sponge showed that it is a
suitable substitute for scrap in steelmelting operations if the
granules are made of concentrates with 65-70% iron. In the
present article the authors describe laboratory investigations

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Reduction of iron from ores in ...

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E111/E135

with a fountaining fluidized bed (Fig.2, where 1 is the column; 2 a conical orifice; 3 thermocouple sheaths; 4 platinum-rhodium/platinum thermocouple; 5 fluidized bed; 6 fountaining material). Charging and discharging arrangements are provided with a water-cooled receiver for rapid cooling of treated samples in a stream of nitrogen. Very rapid heating rates were obtained in the reactor (Fig.3 shows temperature, °C - time, min; curves for 0.5-1.0 mm fractions of iron ore being reduced in hydrogen; curves 1, 2 and 3 corresponding to charge weights of 20, 30 and 40 g respectively, in a 25 mm diameter reactor). Fig.4 shows reduction curves for the 0.25-0.5 mm fraction of one ore (44.45% Fe_{tot} , 63.36 Fe_2O_3 , 19.47 SiO_2 , 4.68 Al_2O_3 , 0.62 Mn, 9.53 loss on ignition, remainder CaO, MgO, S, P, H_2O) in hydrogen in a 20 mm diameter reactor. Top graph gives bed temperature, and bottom left-hand graph the reduction parameters as functions of time, min. Curve 1 corresponds to Fe_{tot} , curve 2 to Fe_{met} , curve 3 to $\varphi = Fe_{met}/Fe_{tot}$, curves 4 and 5 to iron contents in the

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Reduction of iron from ores in ...

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concentrate of β_1 and β_2 , respectively, curves 6 and 7 to metallic-iron contents in the concentrate of k_1 and k_2 respectively, curve 8 to yield of primary concentrate γ_1 , curve 9 is $\varphi_1 = (k_1/\beta_1) \times 100$, curve 10 is $\varphi_2 = (k_2/\beta_2) \times 100$. The right-hand graph gives Fe_{tot} , Fe_{met} and $\varphi = Fe_{met}/Fe_{tot} \times 100$ (curves 1, 2 and 3 respectively) as functions of temperature for holding times of 5 min. Dry magnetic concentration of the sponge iron in the laboratory removed silica, two concentrates being obtained. One had a high iron content (about 80%) but relatively low yield of about 73, iron recovery being up to 80-85% and silica content about 14%. The authors note that from one ore a 95% iron content powder was obtained, even when a fairly high silica content was allowed in order to improve yield, this result being better than in Wiberg sponge iron (Ref.4: M. Viberg, Sovremennyye problemy metallurgii (Present problems in metallurgy), 208-221, Izd.-vo AS USSR, 1958). The metallic powder obtained by the method is easy to briquette. With some ores reduction was carried out successfully in a stream of mixed gas (58.0% CH_4 , 33.6 H_2 , 6.0 CO , 0.8 CO_2 , 1.6 O_2), the

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Reduction of iron from ores in ...

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temperatures giving quickest reduction being above 800 °C. Decomposition of hydrocarbons only became appreciable when heating was prolonged to 5-10 min, 0.36% C being obtained in 10 min at 800 °C. No sticking was observed in the range 600 to 1000 °C. This feature of fountaining fluidized-bed reduction is attributed to the good flow conditions and the absence of dust in the reaction zone.

There are 5 figures and 7 tables.

SUBMITTED: May 27, 1961

Card 4/6

L 11201-63 EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD
 ACCESSION NR: AP3001374 S/0148/63/000/005/0026/0033 53

AUTHOR: Vavilov, N. S.

TITLE: IMET process of reducing metal in a suspended fountain layer

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1963, 26-33

TOPIC TAGS: reduction of iron ore, cyclone method, skull formation, pseudoliquid state, pseudogaseous state, diaphragm, suspended fountain layer

ABSTRACT: During the reduction of iron ore by the cyclone method, finely ground concentrates adhere to the chamber walls (skull formation). Iron content and mineralogic and granulometric compositions of the particles influence adherence properties. In order to overcome this difficulty, a suspended fountain layer process is used in which the raw material particles are observed in a pseudoliquid state, and the processed particles are apparently in a pseudogaseous state. This process can be carried out only using a diaphragm. Orig. art. has: 7 figures.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy)

SUBMITTED: 14Apr62

DATE ACQD: 01Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 007

OTHER: 000

Card 1/1 1s/w

VAVILOV, N.S.

Methods of processing materials in suspension. Trudy Inst. met.
no.12:29-40 '63. (MIRA 16:6)

(Furnaces, Heat-treating)
(Metallurgical furnaces)

VAVILOV, N.S.; CHZHAO CHUN-CHZHI[Chao Ch'ung-chih]

Laboratory equipment for the investigation of physicochemical
and gas dynamic processes in the treatment of iron ore
materials in suspension with a fountain effect. Trudy Inst. met.
no.12:41-44 '63. (MIRA 16:6)

(Iron---Heat treatment)

(Metallurgical laboratories---Equipment and
supplies)

GESS, B.A.; KANAVETS, P.I.; VAVILOV, N.S.; MELENT'YEV, P.N.

Investigating the reduction of iron in carbonaceous ore
granules. Trudy IGI 22:126-130 '63. (MIRA 16:11)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 104

VAVILOV, N. [V] A-1

BC

Colorimetric determination of chromate solutions. N. VAVILOV (Ukrain. Chem. J., 1937, 12, 293-303).—0.3 ml. of 1% $p\text{-NH}_2\text{C}_6\text{H}_4\text{OEt.HCl}$ in 0.045N-HCl is added to 0.1–0.2 ml. of solution, followed after 1 min. by H_2O to 100 ml., and the coloration is compared with that given by 0.1 ml. of 0.1N- $\text{K}_2\text{Cr}_2\text{O}_7$. PO_4^{3-} , SiO_2 , and powerful reducing and oxidizing agents interfere, and tap- H_2O should not be used for dilution. The coloration remains const. for 30 min. The colour reagent is stable.

R. T.

ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION

CLASS	SUBCLASS	SECTION	SERIAL
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VAVILOV, N. V.																									
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Colour reaction for the bismuth ion. N. V. VAVILOV (J. Appl. Chem. Russ., 1938, 11, 356-363).																									
— MeCN-NH_3 gives a yellow coloration with dil. solutions of Bi salts, serving for the detection of < 0.07 mg. Bi in 0.1 ml. of solution; group IV metals do not interfere. Characteristic effects are obtained when the tests are made on filter-paper, according to the other cations present.																									
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ASS 51.6 METALLURGICAL LITERATURE CLASSIFICATION																									
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FOR: 11/1/1938																									
REMARKS: 11/1/1938																									

VAVILOV, N.V.

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Determination of arsenic in thioarsate. N.V. Vavilov.
 Lab. Prakt. (U. S. S. R.) 1939, Sammelband: 600;
 Chem. Zentr. 1940, I, 701. Dissolve the sample in 20 ml
 of 3% NaHCO₃, oxidize with I₂ soln., reduce with KI and
 HCl, remove liberated I₂ and titrate the As⁺⁺⁺ with
 standard I₂ soln. in the presence of NaHCO₃. H.E.W.

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

VAVILOV, O. N.

Transition effects of the soft components of cosmic rays in lead.
O. N. Vavilov (*Compt. rend. Acad. Sci. U.S.S.R.*, 1941, 88, 202
206) The transition effects of the soft component of cosmic rays
in Pb were determined at a height of 4200 m., by comparing the
ionisation in a chamber when Pb absorbers were placed above and/
or below it, with that when the absorbers were absent. The
absorption curve in Pb differs from that obtained by previous
observers, but resembles more closely the theoretical cascade curves.
Experiments were also carried out with Al absorbers. V. J. 31

L 32400-01 EMP(x)/EMP(m)/EMP(y)/EIA(d)/ENP(t)/T-2/ENP(k)/EMP(b) ff-h JD/
 ACCESSION NR AP404716b 0133/61 000/010/0914/0915 27

AUTHOR, Shin'ko, A.A. *Technical sciences; Vavilov, N.Y.*
(Engineer)

(Engineer) John G. ...
TITLE Real pass design for ...

SOURCE: Stal', no: 10, 1964, 914-915

SOURCE: Stat., No. 10, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 267

TOPIC TAGS: hot rolled billets, 4, 24

ABSTRACT: The application of hot rolled billets for the manufacturing of guiding vanes at the Khar'kov Turbine Plant (Khar'kovskiy turbinnyy zavod) resulted in a 50% saving of stainless steel and labor and a 44% cut in production cost. A special roll pass design had to be introduced to handle 12x150 mm strip. The authors recommend a diagonal arrangement of the parting lines in the rotary finishing passes where sizing is most unsymmetrical, a relative reduction of area in the thin part of the strip in the finishing pass exceeding that of the thicker part by 5 to 7% so as to compensate for the roll barrel during cooling, and a maximum rolling temperature of 1200°C for the 12x150 mm strip of steel. Furthermore, particular

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ACCESSION NR: AP4047166

attention should be given to the mounting and attachment of the delivery guides.
Orig. art. has: 2 figures.

ASSOCIATION: Ukrainskyi naukovyi Institut metallov (Ukrainian Scientific Research Metals Institute)

SUBMITTED 00

IN 1 00

SUB CODE MW

PA 57T71

7. VITIKOV, C. N.

USSR/Nuclear Phys - Gamma Rays
Nuclear Phys - Impact, Electronic

Feb 1947

"Transition Effects of γ Rays and Their Influence on the Ionization Current in Ionization Chambers," O. M. Vavilov, I. M. Frank, Phys Inst Imeni P. M. Lebedev, Acad Sci USSR, 12 pp

"Zhur Kasper 1 Teoret Fiz" Vol XVII, No 2

Made measurements of the transition effects of γ rays with use of flat thin-walled ionization chambers. Then enclosed chambers with layers of various substances (Pb, Fe, Al, cardboard), and total thickness of each of these substances remained the same during the entire experiment. In the measurements

57T71

USSR/Nuclear Phys - Gamma Rays (Contd) Feb 1947

the substances were transposed from one layer to the other so that the quantity of given substance on the layer next to the wall of the chamber would be variable. This made it possible to measure transition effects for the front and back walls of the chamber, and the equilibrium intensity of radiation in various substances with constant intensity of the first γ rays falling on the chamber.

57T71

VAVILOV, P., kand. sel'skokhoz. nauk

Science in the Komi A.S.S.R. Nauka i zhyttia 13 no.10:49-
50 N '63. (MIRA 16:12)

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VAVILCV, I. I.

Reinforced Concrete

Application of Stakhanovite methods in preparing metalwork for reinforced concrete.
Bul.stroi.tekh. 9 no. 13, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

U.S. 101, P.S.; 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 26

Vasiliki Nikolaevna, born 1925, living in the village of
Pechora, Izv. Pech. fil. S. 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911,

S/205/63/003/001/026/029
E065/E485

AUTHORS: Vavilov, P.P., Verkhovskaya, I.N., Kondaneva, R.P.,
Popova, O.N.

TITLE: The growth and development of *Vicia faba* L. under
conditions of increased U and Ra content

PERIODICAL: Radiobiologiya, v.3, no.1, 1963, 132-138

TEXT: To elucidate the relative importance of chemical and radiation effects of radioactive substances on plants, bean seedlings were grown in pots containing soil to which U (concentration $4 \times 10^{-7}\%$) and Ra ($1.06 \times 10^{-7}\%$) had been added, while control plants were grown in pots containing normal turf soil; control and treated pots were placed in one of two trenches, one having normal background radioactivity (0.00004 r/hour) and the other with a radiation level of 0.002 r/hour, derived from U ($10^{-2}\%$) and Ra ($10^{-7}\%$) sources in the walls. Observations were made for several weeks on the growth and development of plants kept under the four different environments. The results showed that the U and Ra had an injurious effect on growth, retarding the upward growth of the stem and the formation of new leaves.

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S/205/63/003/001/C26/029
E065/E485

The growth and development ...

reducing the general productivity (including fruit yield) and accelerating the processes of ageing. It was clearly shown that these effects were exerted when the U and Ra were not present in the soil and thus had no direct contact with the plants, indicating that their effects on growth are primarily associated with their radiation emissions rather than chemical properties. Analysis of plants grown on the supplemented soil indicated that Ra had been absorbed into the roots, leaves, stems and fruits, proving a source of chronic internal radiation. There was, however, evidence that chemical factors, particularly in the case of U, also influenced growth adversely in a distinctive manner. Reasons for the effects on growth of the very minute radiation doses applied in the investigation are discussed: the results are thought to indicate the need for a revision of the threshold doses currently accepted for higher plants. There are 2 figures and 3 tables.

ASSOCIATION: Laboratoriya radiobiologii Komi filiala AN SSSR,
Syktyvkar (Radiobiology Laboratory, Komi Branch
AS USSR, Syktyvkar)
SUBMITTED: May 7, 1962

Card 2/2

VAVILOV, P. I.
25704

Ra38MT110

O Vliyaniy Napravleniya Rybnkov Na Razvitie i Vrazhay Sel'sk Khozyaistvennykh
Kul'tur. Sov. Agromiya, 1948, No. 7, s. 77-84.--Bibliogr: 5 Nazv.

SO: LETOPIS NO. 30, 1948

VAVILOV, P.P., kand. sel'khoz. nauk, glav. red.; LAZAREV, N.A.,
kand. sel'khoz. nauk, zam. glav. red.; GALAS'YEV, V.A.,
red.; MOISEYEV, K.A., kand. biol. nauk, red.;
PODOPLELOV, V.P., kand. ekon. nauk, red.; STARKOVA, V.N.,
kand. biol. nauk, red.; TARASENKOV, G.H., kand. geogr.
nauk, red.; TON, D.S., kand. ekon. nauk, red.; TIKHONOVA,
N.V., red.izd-va; VDOVINA, V.M., tekhn. red.

[Forests and the lumbering industry in the Komi A.S.S.R.]
Lesa i lesnaia promyshlennost' Komi ASSR. Moskva, Gos-
lesbumizdat, 1961. 394 p. (MIRA 16:4)

1. Akademiya nauk SSSR. Komi filial, Syktyvkar.
(Komi A.S.S.R.--Forests and forestry)

SOV/30-38-11 41/48

30(5), 30(1)

AUTHOR:

Vavilov, P. P., Candidate of Agricultural Sciences

TITLE:

Problems of the Complex Exploitation of Natural Resources of the North-East of Europe (Problemy kompleksnogo ispol'zovaniya prirodnnykh resursov yevropeyskogo Severo-Vostoka) Conference in Syktyvkar (Konferentsiya v Syktyvkare)

PERIODICAL:

Vestnik Akademii nauk SSSR, 1958, Nr 11, pp 126-128 (USSR)

ABSTRACT:

The conference was held from July 3 to 7 and was dedicated to questions concerning the exploitation of the natural resources of the Komi ASSR and the neighboring territories of the ~~Kenozhskiy rayon~~ as well as of the Northern Ural. It had been convened by the Komi Branch of the AS USSR and the Soviet narodnogo ~~Komitet~~ Komi ekonomicheskogo administrativnogo rayona (Komi Council on National Economy of the Economic Administrative District). More than 400 representatives of scientific institutions, planning offices and industrial organizations from Moscow, Leningrad, Ural, Kuzbass, the Republic of Komi and other cities and regions attended to it. The First Secretary of the Komi Regional Committee of the KPSS, A. G. Dmitrin, opened the conference. Speakers were:

Card 1/4

SOV/30-59-11-40/43

Problems of the Complex Exploitation of Natural Resources of the North-East of Europe. Conference in Syktyvkar

Ye. I. Lopukhov, Deputy Chairman of the Komi Council on National Economy, and B. L. Afanas'yev, Head of the Komi-Nenetskaya Geological Administration, on the natural resources of the Komi ASSR and their exploitation.

V. A. Vityazeva, Candidate of Geographic Sciences, on the first-rate coking coal of the Pechora Basin.

A. Ye. ~~Mikhaylov~~, Ural'skiy filial Akademii nauk SSSR (Ural Branch of the AS USSR) on the economic advisability of transporting the Pechora coking coal to the Ural as well as the construction of a direct railroad line.

D. S. Ton, Candidate of Economic Sciences, on the necessity of further mechanization and automation in the production processes to increase output and reduce production costs of Pechora coal.

S. F. Vasil'yev, Candidate of Technical Sciences, Institut goryuchikh iskopayemykh Akademii nauk SSSR (Institute of Combustible Minerals of the AS USSR) on the prospects of developing the chemical industry of the district.

A. L. Rabkina, Candidate of Economic Sciences, Institut nefti Akademii nauk SSSR (Institute of Mineral Oils of the AS USSR)

Card 2, 4

307/00-50-1 41/48

Problems of the Complex Exploitation of Natural Resources of the North-East of Europe. Conference in Syktyvkar

V. A. Speysheer, Energeticheskiy institut im. G. M. Krzhizhanovskogo Akademii nauk SSSR (Institute of Energetics imeni G. M. Krzhizhanovskiy of the AS USSR) on ways of utilizing the gases of the cracking process and the waste gases of soot formation. M. N. Sprintsir (Giproleaprom) on further prospects of development in the lumber industry and the complete exploitation of lumber as a raw material. V. P. Vasil'yev (Giprotransel), Ya. V. Kupriyanov (Giprorechtrans), A. P. Smirnov, Institut kompleksnykh transportnykh problem Akademii nauk SSSR (Institute of Complex Transportation Problems of the Academy of Sciences, USSR) on the development of the transportation system of the European North-East of the USSR. V. N. Deryagin, Deputy Chairman of the Gosplan Komi ASSR, on the creation and maintenance of permanent qualified working staffs in the sparsely populated districts of the republic. The conference adopted a resolution outlining both the essential paths of development of the entire economy in the district as well as definite measures to be adopted for the advancement of important branches of industry, construction, and transportation.

Card 3/4

Problems of the Complex Exploitation of Natural Resources of the North-East of Europe. Conference in Syktyvkar 30V/30-58-11-41/48

Practical suggestions were made for the establishment of large enterprises in the field of chemistry, paper cellulose, hydrolysis and others; where processing industries must be given priority over those producing rawmaterials. Scientific research in the field of geology, chemistry, the exploration and utilization of reserves lying dormant in the industries themselves and the efficient distribution of productive labor should be emphasized.

Card 4/4

POPOVA, O.N.; KODANEVA, R.P.; VAVILOV, P.P.

Distribution of the radium absorbed from the soil in
plants. Fiziol. rast. 11 no. 3:436-441 '64. (MIRA 17:7)

1. Institut biologii Komi filiala AN SSSR, Syktyvkar.

ROCHEV, N.N., glav. red.; VAVILOV, P.P., red.; VERTEL', E.I., red.; GORELIK, A.I., red.; GUZMAN, I.S., red.; KUZNETSOV, G.N., red.; MEDVEDEV, G.A., red.; MODYANOV, Ya.V., red.; PANTELEYEVA, A.A., red.; POLYAKOV, V.V., red.; POPOV, S.A., red.; POPOVA, S.M., red.; RAYEVSKIY, S.S., red.; RUDAKOV, S.V., red.; SYUTKIN, A.F., red.; USOV, A.I., red.; USTINOVA, I.K., red.; SHKIL', P.T., red.; CHEBYKIN, N.P., red.; MEZENTSEV, S.A., red.; MOROZOV, V.S., red.; OPLESNIN, I.I., tekhn. red.

[Forty years of the Komi A.S.S.R., 1921-1961; studies on the cultural and economic development of the Komi Republic] 40 let Komi ASSR, 1921-1961; ocherki o razvitii ekonomiki i kul'tury Komi Respubliki. Syktyvkar, (MIRA 14:11)
Komi knizhnoe izd-vo, 1961. 154 p.
(Komi A.S.S.R.--Economic conditions) (Komi A.S.S.R.--Culture)

VAVILOV, P.P.; CHEBYKINA, H.V.

Effect of different green-fallow crops on the intensity of soil
respiration. Trudy Komi fil. AN SSSR no.9:33-36 '60. (MIRA 15:1)

(GASES IN SOILS)

(FIELD CROPS)

~~YAVILOV, P.P.~~

Solving the Ural-Pechora problem is a most important objective
in the national economy. Trudy Komi fil. AN SSSR no. 8: 3-7 '59.
(MIRA 13:11)

1. Predsedatel' Prezidiuma Komi filiala AN SSSR.
(Pechora Basin—Coal mines and mining)

VAVILOV, P.P.; VITYAZEVA, V.A.

The Komi Branch of the Academy of Sciences of the U.S.S.R.
Izv. AN SSSR. Ser. geog. no.6:130 N-D '61. (MIRA 14:12)
(Komi A.S.S.R.—Geographical research)

VAVILOV, P.P.; POPOVA, O.N.; KODANEVA, R.F.

Radium behavior in plants. Dokl. AN SSSR 157 no.4:992-994
Ag '64 (MIRA 17:8)

1. Institut biologii Komi filiala AN SSSR. Predstavleno akademikom N.M. Sisakyanom.

VAVILOV, P.P.; MOISEYEV. K.A.

Introduction of silage plants and their propagation on state and
collective farms of the Komi A.S.S.R. Biul.Glav.bot.sada no. 48:
3-11 '63. (MIRA 17:5)

1. Komi filial AN SSSR, gorod Syktyvkar.

L 30097-66 EWT(m)
ACC NR: AP6012875

SOURCE CODE: UR/0205/66/006/002/0278/0283

AUTHOR: Vavilov, P. P.; Verkhovskaya, I. N.; Popova, O. N.; Kodaneva, R. P.

ORG: Komi Branch, AN SSSR, Syktyvkar (Komi filial AN SSSR); Institute of Biochemistry
Im. A. N. Bakh. AN SSSR, Moscow (Institut biokhimii AN SSSR)

TITLE: The depressant effect of small doses of ionizing radiation on growing plants

SOURCE: Radiobiologiya, v. 6, no. 2, 1966, 278-283

TOPIC TAGS: ionizing radiation, radiation plant effect, plant physiology, plant growth,
gamma irradiation

ABSTRACT: In view of previous findings that the growth of *Vicia faba* is significantly delayed in areas with large deposits of uranium or radium, similar experiments were carried out over a 2-year period with spring wheat and spring barley grown in experimental plots under the influence of gamma radiation from U and Ra ore (radiation dose of 0.005 — 0.1 r/day). The height, internodes, dry weight, number of heads, and number of grains per head were measured in both experimental and control plots. Although radiation had no

Card 1/2

UDC: 58.039.1

L 30097-66

ACC NR: AP6012875

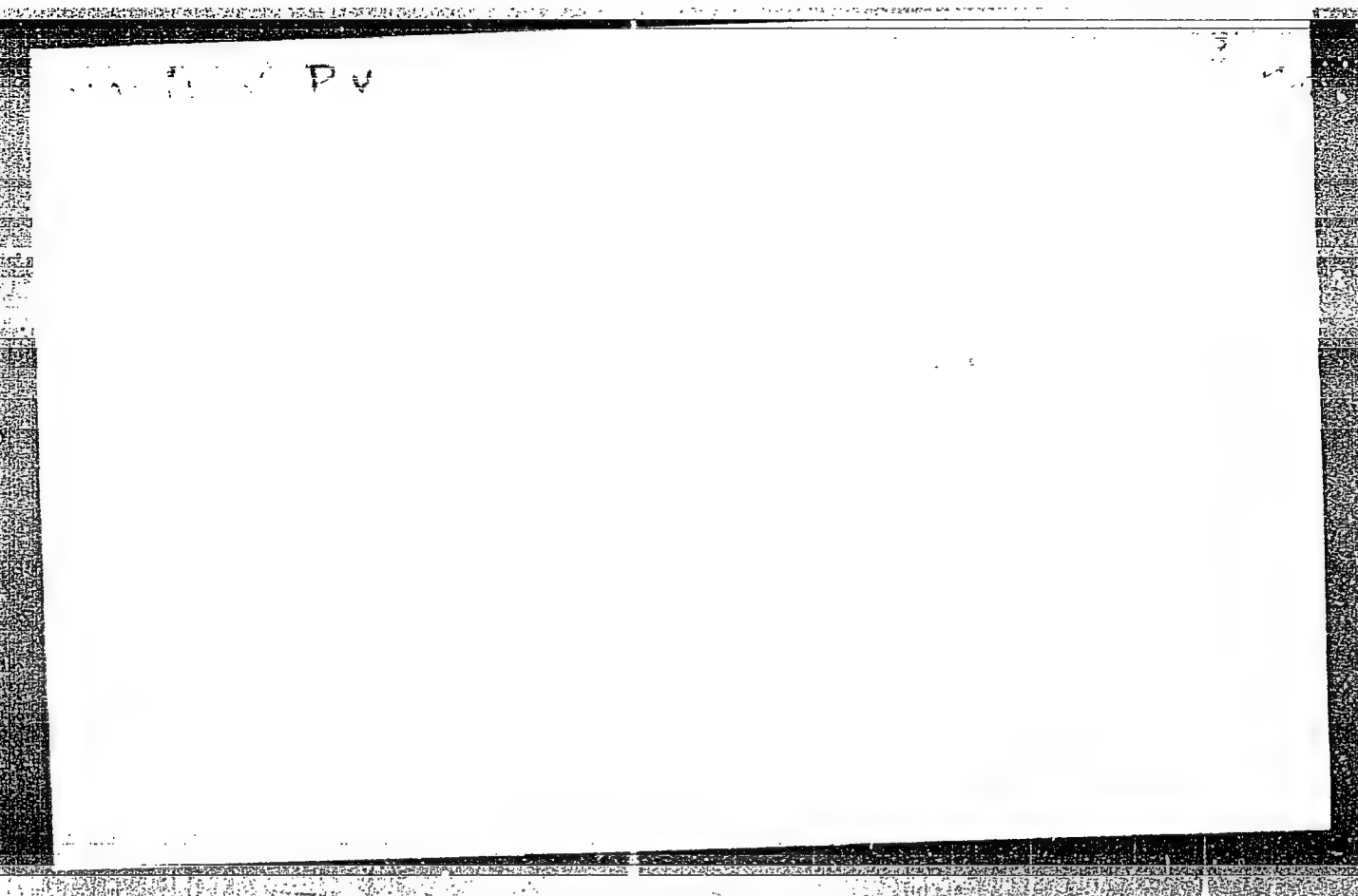
significant effect on germination rate of either wheat or barley, it produced a marked delay in heading and tillering and thus significantly decreased the biological productivity of the crops. The authors are deeply grateful to the members of the Radiophysics Group, Department of Radiobiology, Institute of Biology, Komi Branch, AN SSSR (Radiofizicheskaya gruppa otdela radiobiologii Instituta biologii Komi Filiala AN SSSR) for their assistance in the work. Orig. art. has: 2 figures and 3 tables. [08]

SUB CODE: 06 / SUBM DATE: 27Nov64 / ORIG REF: 007 / OTH REF: 006/ ATD PRESS: 5012

Card 2/2 (C)

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APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859030005-0"

VAVILOV, P.V.

C-3

Category : USSR/Nuclear Physics - Elementary Particles

Abs Jour : Ref Zhur - Fizika, No2, 1957 No 3149

Author : Vavilov, P.V.

Title : Radiative Decay of Λ^0 Particles

Orig Pub : Zh. eksperim i teor. fiziki, 1956, 30, No 5, 985-987

Abstract : An investigation is made of the effect of the spin of a Λ^0 particle on the form of the spectrum of the gamma quanta, produced during its radiative decay $\Lambda^0 \rightarrow p + \pi^- + \gamma$. The disintegration probabilities are calculated in the first order of the perturbation theory for two variants. The spin of the Λ^0 particle is assumed to be $\frac{1}{2}$ in the first and $\frac{3}{2}$ in the second (in this case the Rarita-Schwinger equation is used to describe the Λ^0 particle). The result of the calculations show that the spin of the Λ^0 particle affects the form of the spectrum. This effect manifests itself particularly at large photon frequencies and is not significant at low frequencies.

Card : 1/1

AUTHOR
TITLE

P.V. VAVILOV

56-4-34/52

Ionization Losses of Heavy Particles with High Energies.
(Ionizatsionnyye poteri tyazhelykh chastits bel'shikh energiy.
Russian)

PERIODICAL

Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol 32, Nr 4,
pp 920-923 (USSR)

ABSTRACT

The present paper furnishes the exact solution of the problem of ionization losses of heavy particles in "thin absorbers" (i.e. for the case that the ionization losses are lower than the initial energy of the particles). A charged particle loses its energy when passing through matter by collisions with the electrons of the atoms. As the various collisions are independent phenomena, the energy losses may fluctuate. The kinetic equation for the distribution function is given. The probability of the losses may here be regarded as independent of the energy E of the final state. Further $\omega(\xi) = 0$ at $\xi > \xi_{\max}$ is assumed, here, where ξ_{\max} denotes the maximum energy transferable during an impact. LAPLACE'S transformation is used for the solution of this kinetic equation. The exact solution is then given explicitly and transformed.

For the special case $\kappa = 0$ (κ is one of the coefficient

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56-4-31/52

Ionization Losses of Heavy Particles with High Energies.

occurring in the rather long expressions) LANDAU'S solution is obtained. Here, however, the case $\alpha \gg 1$ is investigated. The determination of the maximum of the distribution function is given in short. All numerical computations were carried out in the laboratory for controllable machines and systems of the Academy of Science of the U.S.S.R. According to the value of α either various approximations may be used or the exact solution has to be determined. (2 Illustrations.)

ASSOCIATION: not given.

PRESENTED BY: -

SUBMITTED: 17.2. 1956.

AVAILABLE: Library of Congress.

CARD 2/2

VAVILOV

AUTHOR

VAVILOV, P.V.,

56-6-37/56

TITLE

The Bubble Chamber.

(O puzyrkovoy kamere, -Russian)

PERIODICAL

Zhurnal Eksperim, i Teoret. Fiziki, 1957, Vol 32, Nr 6, pp 1567-1568
(U.S.S.R.)

ABSTRACT

The mechanism of the production of bubbles on the occasion of the passage of a particle through an overheated liquid has hitherto not been explained. In the present paper it is assumed that the production of bubbles is essentially a thermal process; the author here investigates an overheated liquid. It is known that for every metastable phase there exist certain minimum measures which an accumulation of another phase must have in order that this other phase be more stable than the primary phase. On the occasion of the passage of a charged particle through matter δ -electrons of various energies are produced which lose their energy on a comparatively short path. The author here assumes the following: The total energy of a δ -electron is separated in form of heat, and for the production of a bubble it is necessary to concentrate an energy of the order E_{min} within a domain of the order of magnitude of the dimensions of the bubbles. If the production of the bubble is assumed to be isothermal, one obtains $E_{min} = Nq + pV + 4\pi r_{min}^2\alpha$. The liquid is in this case assumed to be slightly overheated. For the determination of the number N of the vapor molecules in the bubble the equation of state of the perfect gas can be used. Under these circumstances

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The Bubble Chamber.

56-637 /56

ces the expression $E_{min} = \left[16 \pi \alpha^3 / (p_0 - p) \right] \left[1 + 2p_0 (p/p_0 + q/kT) / (p - p_0) \right]$.

is obtained for E_{min} . Here α denotes the surface tension, p_0 -the pressure in the case of a plane separating surface, p - the pressure in the overheated liquid, q - the evaporation heat per molecule, T -the temperature of the overheated liquid. The δ -electrons with different energies will produce bubbles with different radii. Eventually, the electron will then be able to produce several bubbles at an energy E' . However, such δ -electrons leave visible traces which branch off from the trace of the ionizing particle. Therefore they need not form part of the discussion. It is thus necessary to find the number of δ -electrons with the energy $E_{min} < E \leq E'$; a corresponding expression is given. It is a characteristic feature of this expression that it is highly dependent on the degree of overheating.
(No illustrations).

ASSOCIATION Not Given.
PRESENTED BY
SUBMITTED 29.11.1956
AVAILABLE Library of Congress.
Card 2/2

VAVILOV, P.V.

56-4-46/52

AUTHOR: VAVILOV, P.V.
TITLE: The Cross Sections of the Interaction of Pions with Nucleons at High Energies.
 (Secheniye vzaimodeystviya π -mezonev s nuklonami pri bel'shikh energiyakh. Russian.)
PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol 32, Nr 4, pp 940 - 941 (U.S.S.R.)
ABSTRACT: This cross section, as is known, tends towards a certain boundary value at high energies, which is due to the finity of the nucleus. (The author here neglects COULOMB'S interaction). For the computation of this boundary value the author here makes use of the dispersion relations, which connect the imaginary part with the real part of the amplitude of scattering in the angle zero. The following expression is, for instance, obtained for the scattering of negative mesons with protons:

$$\text{Imf}_-(\omega) = \frac{1}{2} \text{Imf}_-(\mu) \left(1 + \frac{\omega}{\mu}\right) + \frac{1}{2} \text{Imf}_+(\mu) \left(\frac{\omega}{\mu} - 1\right) + \frac{\omega^2 - \mu^2}{\pi} P \int_0^\infty \frac{d\omega'}{\omega'^2 - \mu^2}$$

$$\left[\frac{\text{Re}f_+(\omega)}{\omega' + \omega} - \frac{\text{Re}f_-(\omega')}{\omega' - \omega} \right] - \pi \sum_k \delta(\omega_k - \omega) \text{Res}f_-(\omega_k)$$

Card 1/3

6-4-52

The Cross Sections of the Interaction of Pions with Nucleons at High Energies.

It was taken into account here that the amplitude may have poles at the points ω_k . (The residuals $\text{Res} f$ are real). In this formula P denotes the main value of the integral; the integral is taken in the sense of the main value not only in those cases in which the denominator becomes zero, but also in the poles of the function f_{\pm} .

If in the above mentioned formula ω tends towards ∞ ,

$\sigma_{\infty} = 4P \int_0^{\infty} \frac{d\omega}{\omega^2 - \mu^2} \text{Re} [f_+(\omega) + f_-(\omega) - f_+(\mu) - f_-(\mu)]$ is obtained. The expression just given is symmetric with respect to f_{\pm} , and there-

fore the boundary value of the cross section is equal for both positive and negative mesons. The domain of integration in the formula mentioned above is split into domains $0 \leq \omega \leq \mu$ and $\mu \leq \omega \leq \infty$

After some more transformations the following is obtained:

$$\sigma_{\infty} = -1,5 + I_0 + I_1 ;$$

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56-4-46/52

The Cross Sections of the Interaction of Pions with Nucleons at High Energies.

$$I_0 = \frac{1}{\pi^2} \int_0^\infty \frac{dE}{\sqrt{E(E+2\mu)}} \ln \frac{E+2\mu}{E} [\sigma_+(E) + \sigma_-(E)],$$

$$I_1 = 4\lambda^2 \int_0^\infty \frac{dx}{x(x+2)} \frac{1}{\lambda} \operatorname{Re}(f_+(x) + f_-(x) + 0,04(1 + \mu/M)), \quad x=E/\mu.$$

For the computation of the integrals the author used the experimental values for $\sigma_+(E)$ and $\operatorname{Re} f_+(x)$. The values $I_0 = 20$ millibarn and $I_1 = 11,5$ millibarn are obtained for the integrals. By insertion of the sum given above, $\sigma_\infty = 30$ millibarn is obtained, which agrees with experimental data. The accuracy of σ_∞ is restricted by the accuracy of the experimental data for $\operatorname{Re} f_+$, σ_+ .
(No illustrations.)

ASSOCIATION:
PRESENTED BY:
SUBMITTED:
AVAILABLE
Card 3/3

Not given
January 17, 1957
Library of Congress

Vavilov, P.V.
USSR/Nuclear Physics - Passage of Charged and Neutral
Particles Through Matter.

C-6

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 541

Author : Vavilov, P.V.

Inst : -

Title : Ionization Losses of Heavy Particles of Large Energies.

Orig Pub : Zh. eksperim. i teor. fiziki, 1957, 32, No 4, 920-923

Abstract : An exact solution is obtained for the problem of the ionization losses of heavy particles in "thin absorbers," i.e., when the ionization losses are much less than in the initial energy of the particle. The solution obtained is investigated for various values of the parameter κ (κ is proportional to the ratio of the average energy loss per unit length to the maximum energy transferred during the time of one collision). It is shown that when $\kappa = 0$, the solution goes into the curve of L. D. Landau (Journal of Physics, USSR, 1944, 8, 204). Plots are given for the

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USSR/Nuclear Physics - Passage of Charged and Neutral
Particles Through Matter

C-6

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 541

is the Airy function, tabulated by V.A. Fock (Tables of
Airy Functions, Moscow, 1949). It is shown that when
 $x \rightarrow \infty$, (1) goes into the gaussian curve.

Card 3/3

VAVILOV, S.

Mikrostruktura Sveta (Microstructure of Light -Essays)

197 p. 1.25

SO: Four Continent Book List, April 1954

VAVILOV, S.; LUDCHENKO, A.

Potentialities for increasing the durability of tires. Avt.transp.
41 no.11:6 N '63. (MIRA 16:12)

1. Direktor Tarashchanskogo avtoparka Kiyevskogo oblastnogo
avtomobil'nogo tresta (for Vavilov). 2. Glavnyy inzhener
Tarashchanskogo avtoparka Kiyevskogo oblastnogo avtomobil'nogo
tresta (for Ludchenko).

VAVILOV, S.

Stop negligence and dishonesty. Grazhd. av. 20 no.9:24 S '63.
(MIRA 16:8)

1. Glavnyy bukhgalter Glavnogo upravleniya Grazhdanskogo
vozdušnogo flota.
(Aeronautics, Commercial)

VAVILOV, S.

VAVILOV, S., inzhener.

Shortening the lay-off period of ships for boiler cleaning.
Mor. i rech.flot 14 no. 7:15-16 JI '54. (MIRA 7:7)
(Ships--Maintenance and repair) (Steam boilers, Marine)

VAVILOV, S I-

28(2)

PHASE I BOOK EXPLOITATION

SOV/2712

received
1951

Akademiya nauk SSSR

Perevodnaya mashina P.P. Troyanskogo; sbornik materialov o perevodnoy mashine dlya perevoda s odnogo yazyka na drugiye, predlozhennoy P.P. Troyanskim v 1933 g. (P.P. Troyanskiy's Translation Machine; Collection of Materials on a Translation Machine for Translating One Language Into Others, Proposed by P.P. Troyanskiy in 1933) Moscow, Izd-vo AN SSSR, 1959. 52 p. 2,000 copies printed.

Ed.: D.Yu. Panov; Ed. of Publishing House: K.P. Gurov; Tech. Ed.: S.G. Markovich.

PURPOSE: This book is intended for readers interested in problems of machine translation.

COVERAGE: This publication describes the work of the late P.P. Troyanskiy, who invented an automatic translation machine in the early 1930's. The volume contains two articles taken from Troyanskiy's manuscripts and comments on these by members of a commission set up by the Presidium of the Academy of Sciences of the USSR in 1957 to study his work. The first

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P.P. Troyanskiy's Translation Machine (Cont.)

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article deals with the linguistic principles of automatic translation, and comments are presented by I.K. Bel'skaya. The second article describes the technical characteristics of a translating machine. The official patent specifications for the machine are reproduced. Comments on the technical aspects are presented by D.Yu. Panov and L.N. Korolev. There are no references.

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Comments (I.K. Bel'skaya)	29
Card 2/3	

P.P. Troyanskiy's Translation Machine (Cont.)

SOV/2712

II. TECHNICAL MATERIAL

P. Troyanskiy. Machine for Automatic Translation and Printing of Texts Requiring Only Final Editing and Made From One Language Simultaneously Into a Number of Other Languages

35

Description of a Machine for Selecting and Printing Words in Translating One Language Into Another. Author's Certificate of Invention, Issued September 5, 1933

39

Comments (L.N. Korolev and D.Yu. Panov)

41

AVAILABLE: Library of Congress

Card 3/3

IS/mg
12-31-59

VAVILOV, S.I.

Galilei's role in the history of optics. Usp. fiz. nauk
83 no.4:583-615 Ag '64. (MIRA 17:9)

VAVILOV, S.I.

From the opening speech at the solemn session on the occasion
of the centennial anniversary of N.E. Zhukovskii's birth
(January 17, 1947). Trudy Inst.ist.est.i tekhn. 17:93-95 '57.
(MIRA 10:7)

(Zhukovskii, Nikolai Egorovich, 1947-1921)

VAVILOV, S.I.

Meetings with T.P. Kravets. Trudy Inst.ist.est.i tekhn. 17:96-99
'57.

(MIRA 10:7)

(Kravets, Torichan Pavlovich, 1876-)

VAVILOV, S.I.

Report and speeches at the first plenum of the Commission on
the History of the Academy of Sciences of the U.S.S.R. Trudy
Inst.ist.est.i tekhn. 17:100-107 '57. (MLRA 10:7)
(Academy of Sciences of the U.S.S.R.--History)

ARBUZOV, A.Ye., akad.; VAVILOV, S.I., akad.; VOL'FKOVICH, S.I., akad.;
KOCHINA, P.Ya., akad.; LANDSBERG, G.S., akad.; LEYBENZON, L.S.,
akad.; PORAY-KOSHITS, A.Ye., akad.; SMIRNOV, V.I., akad.; FESENKOV,
V.G., akad.; CHERNYAYEV, V.I., akad.; KAPUSTINSKIY, A.P.; KORSHAK,
V.V.; KRAVKOV, S.V.; NIKIFOROV, P.M.; PETROV, A.D.; PREDVODITELEV,
A.S.; FRISH, S.E.; CHETAYEV, N.G.; CHMUTOV, V.K.; SHOSTAKOVSKIY, M.F.;
KUZNETSOV, I.V., red.; MIKULINSKIY, S.R., red.; MURASHOVA, N.Ya.,
tekhn.red.

[Men of Russian science; essays on prominent persons in natural
science and technology: Mathematics, mechanics, astronomy, physics,
chemistry] Liudi russkoi nauki; ocherki o vydaiushchikhsia deiate-
liakh estestvoznaniia i tekhniki: matematika, mekhanika, astronomia,
fizika, khimiia. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1961.
(MIRA 14:10)
599 p.

1. Chleny-korrespondenty AN SSSR (for Kapustinskiy, Korshak, Kravkov,
Nikiforov, Petrov, Predvoditelev, Frish, Chetayev, Chmutov, Shostakovskiy).
(Scientists)

PHASE I BOOK EXPLOITATION

SOV/5537

Released
1951

Vavilov, Sergey Ivanovich, Academician

Glaz i Solntse. O "teplom" i "kholodnom" svete (The Eye and the Sun. On "Warm" and "Cold" Light) Moscow, 1961. 156 p. 15,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR.

Ed. of Publishing House: Ye. M. Klyaus; Tech. Ed.: G. A. Astaf'yeva.

PURPOSE: This book is intended for the general reader. Its publication was approved by the Editorial Board for Popular Scientific Literature of the Academy of Sciences, USSR.

COVERAGE: In this work the author analyzes the Sun as a source of light, and deals in particular detail with the problem of "cold light" or luminescence, which he regards as the light of the future. The first part of the book was originally published in 1927 and has been republished six times since. The present edition is based on Volume IV (1956) of the collected works of

Card 1/3

The Eye and the Sun (Cont.)

SOV/5537

Academician S. I. Vavilov. Glaz i Solntse, and the book Mikrostruktura sveta (Microstructure of Light) were awarded the Stalin Prize in 1951. No personalities are mentioned. A list of twelve recommended books on luminescence is appended.

TABLE OF CONTENTS:

THE EYE AND THE SUN

(About Light, Sun, and Sight)

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The Sun	45
The Eye	71

ABOUT "HOT" AND "COLD" LIGHT

(Heat Radiation and Luminescence)

Card 2/3

VAVILOV, S.I.

Old and new physics. Ist. i metod. est. nauk no.3:3-12 '65.
(MIRA 18:12)

VAVILOV, S. P.

Feed Water Purification

Thermochemical softening of boiler water on river boats. Rech. transp., 12, No. 3, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1952, ²Unclassified.

VAVILOV, Sergey Ivanovich (g.Yoshkar-Ola); KUZNETSOV, I.V., otv.red.;
KLYAUS, Ye.M., red.izd-va; RYLINA, Yu.V., tekhn.red.

[Isaac Newton; scientific biography and articles] Isaak N'iuton;
nauchnaya biografiya i stat'i. Moskva, Izd-vo Akad.nauk SSSR,
1961. 293 p. (MIRA 14:2)
(Newton, Sir Isaac, 1642-1727)

VAVILOV, V.

Merited punishment. Kryl. rod. 15 no.10:30 0 '64. (MIRA 18:1)

1. Otvetstvennyy sekretar' Federatsii aviatsionnogo sporta
SSSR.

SOV/85-58-11-7/33

AUTHOR: Vavilov, V., Chief Judge of Competitions
TITLE: Helicopters in the Sky (V nebe vertolety)
PERIODICAL: Kryl'ya rodiny, 1958⁹, Nr 11, pp 6-8 (USSR)

ABSTRACT: The author describes the various exercises and individual performances of pilots who flew helicopters during the 1958 Spartacus Games. The performance (record) of the team representing the Tsentral'naya planerovertoletnaya shkola (Central Glider and Helicopter School) is favorably commented upon. There are 6 photographs showing the various team winners which include: The VVS-1 team with M. Yevstaf'yev, Captain; M. Basargin and V. Savin; and the team of the Central Glider and Helicopter School consisting of V. Kostin, S. Golubev, Captain, and G. Pavlenko. Also shown are: V. Ryakhovskiy, Master of Sports, USSR Champion in Helicopter Sports, N. Obodovskiy, USSR Champion in Helicopter Sports, and F. Belushkin, absolute USSR Champion in Helicopter Sports, the latter representing TsAK.

Card 1/1

VAVILOV, V.

The first championship of the world in Bratislava. Kryl. rod. 11
no. 12:12-13 D '60. (MIRA 14:3)

(Bratislava--Aeronautics--Competitions)

VAVILOV, V.

Following up our articles. Kryl.rod. 13 no.4:19 Ap '62.

(MIRA 15:5)

1. Predsedatel' byuro Vsesoyuznoy sektiis vertolotnogo sporta.

(Aerial sports)

VAVILOV, V.

If conditions should become more complicated. Kryl.rod.
13 no.11:20-21 N '62. (MIRA 15:12)

1. Predsedatel' Vsesoyuznoy seksii vertoletnogo
sporta.
(Aerial sports) (Helicopters)

VAVILOV, V.

Greater activity in the work of various sections. Kryn. rod. 8
no. 5:8-9 My '57. (MLRA 10:6)

1. Nachal'nik aviatsionno-sportivnogo otdela Tsentral'nogo komiteta
Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu SSSR.
(Military education)

VAVILOV, V.

Heavy industry is the basis of the economic might and the defense capacity of our country. Tyl i snab. Sov. Voor. Sil 21 no.12:12-17
D '61. (MIRA 15:1)

(Russia--Economic policy)

VAVILOV, V.A.; LIVSHITS, I.A.; MAYZEL', B.I.; OKUN', B.TS.

Outfit for flow coat painting with subsequent exposure in vapors
of a solvent. Lakokras. mat. 1 ikh prim. no.6:67-70 '61.

(MIRA 15:3)

(Painting—Equipment and supplies)

SHARUTIN, A.S.; VAVILOV, V.G.; GUSEYNOV, I.S.

Control of circulating fluid losses in wells of the Oil Field
Administration of the Lenin Petroleum Trust. Trudy AzNII DN
no.10:294-304 '60. (MIRA 14:4)
(Azerbaijan--Oil well drilling fluids)

LYAKISHEV, N.I., inzh.; VAVILOV, V.I., inzh.

Introduction of an instrument laminated with hard alloys. Ser. prom.
11 no.9;20-21 S '62. (MIRA 17:2)

1. Skhodnenskaya mebel'naya fabrika.

VAVILOV, V. S.

PA 153T103

USSR/Radio - Radar
Communications - Interplanetary

Nov 49

"Experiments on Radar Reflections From the Moon,"
V. S. Vavilov, 12 pp

"Uspekhi Fiz. Nauk" Vol XXXIX, No 3

Discusses possibility of flight to the moon, reflection of radio signals from the moon, Dewitt's experiment, method of accumulation, possibility of communication lines using the moon as a passive reflector, and unilateral radio communication with planets.

153T103

USSR/Nuclear Physics-Cosmic Rays Dec 49

"New theory of the Origin of Primary Cosmic Rays,"
V. S. Vavilov, 7 pp

155T47
"Uspekhi Fiz Nauk" Vol XXXIX, No 4

Survey of current literature, foreign and Soviet
(Perni, Svann, Richtmeyer, Alfven, Adams), dis-
cusses: movement of interstellar matter, accumula-
tion of energy by cosmic-ray particles, spectrum of
primary cosmic rays, mechanism behind generation of
particles with energies sufficient for subsequent
acceleration, "collision" of charged fast particles
with magneto-hydrodynamic fields, and calculation

155T47

USSR/Nuclear Physics-Cosmic Rays (Contd) Dec 49

of threshold of energy necessary for subsequent ac-
celeration of particles by wandering, or stray, in-
terstellar magnetic fields.

VAVILOV, V. S.

155T47

VAVILOV, V. S.

IA 159T

USSR/Electronics - Crystals, Germanium Transistors Jan 50

"New Apparatus: The Amplification of High-Frequency Currents by Crystal Germanium Triodes," V. S. Vavilov 21 pp

"Uspekhi Fiz Nauk" Vol XL, No 1

Discusses properties of germanium, construction and operating principle of crystal triodes, and characteristics of transistors. Considers influence of signal frequency, distance between points, and temperature upon operation of germanium triodes; noise

159T7

USSR/Electronics - Crystals, Germanium (Contd) Jan 50

levels; circuit schemes for hookup of transistor; crystal tetrodes. Gives additional information on triodes. References are mostly non-Russian (84 out of 92).

159T7

- VAVILOV, V. S.

177T33

USSR/Electronics - Crystals, Germanium Oct 50

"Competitor of Radio Tube (Crystalline Triodes and Their Application)," V. S. Vavilov

"Priroda" Vol ³⁹XXXIX, No 10, pp 9-13

Survey, mostly from American lit, of cryst rectifiers, amplifiers and transistors made of germanium.

LC

177T33

VAVILOV, V.

Introduction of local conductivity centers (Levels) in semiconductors
by nuclear bombardment, Uspekhi Fiz. Nauk 41, 109-12 '50. (MLR 3:5)
(CA 47 no.17:8518 '53)

VAVILOV, V. S.

PA 174T48

USSR/Nuclear Physics - Counters,
Crystalline

Jan 51

"Crystalline Counters," V. S. Vavilov

"Priroda" Vol XL, No 1, pp 49-51

Elementary description of action of subject counter in which individual acts of colliding particles are detected in crystal block instead of gas as in Geiger-Mueller counter. Describes scheme for connecting crystal to electronic circuit. Gives displacement lambda for 9 different crystals for certain temp and voltages. Mentions Hofstadter's article "Crystal Counters" in "Proceedings of the IRE" 38, 726, 1950.

LC

174T48

VAVILOV, V.

Vavilov, V. The oscillograph with a running wave. P. 274.

SO: Progress in the Physical Sciences, Vol. XLIV, No. 2, June 1951, (Uspekhi)

14-00000

USSR/Physics - Electron Optics

Oct 52

"Electron Optical Method of Investigation of Electromagnetic Fields and Its Application to Study of the Internal Photoeffect," V. S. Vavilov "Zhur Tekh Fiz" Vol 22, No 10, pp 1644-1657

Employs electron optical method (similar to Foucault-Tepler method in ordinary light optics) to investigate weak electrical fields of small extension. Employed method permits one to localize and evaluate magnitude of electrical and magnetic fields simultaneously with observations

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of magnified objects (e.g., surfaces of crystals with held charges). Indebted to Acad A. A. Lebedev, who proposed present theme.

(PP 56 no. 669-6057 '53)

236194

VAVILOV, V. S.

VAVILOV, V. S.

USSR/Electronics - Germanium Triodes

Jan 52

"Semiconducting Triodes Without Point Contacts,"
V. S. Vavilov

"Uspekhi Fiz. Nauk" Vol XLVI⁴⁶, No 1, pp 96-106

Reviews foreign literature on improvements in manuf
of germanium triodes consisting in low noise level,
stability of operation, high amplification power,
high efficiency and small dimensions.

209T55

VAVILOV, V. S.

Electronic Apparatus and Appliances

Ion microprojector. Usp. fiz. nauk, 47, No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1953. Unclassified.

and influence of the ... the action ... workers